



## Energy Section

### Green & Healthy Schools Assessment

Reducing energy use, encouraging energy-saving behavior, and purchasing energy efficient appliances saves natural resources and can save your school some money. Regular maintenance of heating, ventilation and air conditioning systems will improve performance and may prevent a minor repair cost from becoming a major expense. It also helps maintain indoor air quality and reduce allergy and asthma triggers. This section will help you identify current energy management practices in your school and start you thinking about ways to modify these practices to make your school greener and healthier.

**School Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Conducted By:**

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#### School Population

Students: \_\_\_\_\_  
Staff: \_\_\_\_\_  
Total: \_\_\_\_\_

#### A. Classroom Audit

Have each classroom complete the Classroom Energy Audit on page 5.

#### B. General Information

1. When was the original school building built?

☐ Prior to 1950

☐ Between 1950 and 1975

☐ Between 1975 and 1990

☐ After 1990

2. Have any additions been added to the original school building?

☐ Yes ☐ No

If so, what additions were added and when?

3. What changes have been made since the school was built and when?

- ☐ New windows \_\_\_\_\_
- ☐ New carpeting/flooring \_\_\_\_\_
- ☐ Remodeling of rooms \_\_\_\_\_
- ☐ Heating Ventilation and Air Conditioning (HVAC) \_\_\_\_\_
- ☐ New roof \_\_\_\_\_
- ☐ Other \_\_\_\_\_

4. How old is your heating, ventilation and air conditioning (HVAC) equipment?

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5. Does your school follow a schedule for servicing HVAC equipment?

☐ Yes ☐ No

6. How often are furnace and ventilation filters cleaned or replaced?

7. Contact your electricity provider and ask them what are the primary sources of energy for your school.

|  |  |
|--|--|
| <input type="checkbox"/> Coal ____%          | <input type="checkbox"/> Natural Gas/Propane ____% |
| <input type="checkbox"/> Nuclear ____%       | <input type="checkbox"/> Oil ____%                 |
| <input type="checkbox"/> Hydroelectric ____% | <input type="checkbox"/> Windpower ____%           |
| <input type="checkbox"/> Solar ____%         | <input type="checkbox"/> Geothermal ____%          |
| <input type="checkbox"/> Wood ____%          | <input type="checkbox"/> Other _____ %             |

8. What facilities other than the school building use electricity on school grounds?

|  |   |
|--|---|
| <input type="checkbox"/> Athletic Fields | <input type="checkbox"/> Outdoor lighting |
| <input type="checkbox"/> Press Box       | <input type="checkbox"/> Other _____      |
| <input type="checkbox"/> Storage Sheds   |   |

9. How much did your school pay for energy last year?

Propane/Natural Gas/Oil \_\_\_\_\_

Electricity \_\_\_\_\_

Other \_\_\_\_\_

**C. Building Information**

1. What material is the exterior of the building made of?

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> Brick    | <input type="checkbox"/> Wood        |
| <input type="checkbox"/> Concrete | <input type="checkbox"/> Other _____ |

2. Windows [A driver and 1 rider is not considered a carpool; a driver with more than 1 rider is considered a carpool.]

| Side of Building | # Windows | # Cracked/<br>Broken | # Windows<br>that leak<br>air/water | # Single Paned/<br># Double Paned | # Windows<br>that can be<br>opened | # Windows with<br>coverings (blinds,<br>curtains, etc) |
|------------------|-----------|----------------------|-------------------------------------|-----------------------------------|------------------------------------|--|
| North            |           |                      |                                     |                                   |                                    |  |
| South            |           |                      |                                     |                                   |                                    |  |
| East             |           |                      |                                     |                                   |                                    |  |
| West             |           |                      |                                     |                                   |                                    |  |

4. Does the building have insulation in the walls and ceiling?

☐ Yes ☐ No

If so, what type(s) of insulation does your building have?

5. If your school has central air conditioning, is the outside unit in direct sunlight during most of the day?

☐ Yes ☐ No

6. Are trees placed closely around the building to provide shade during sunny days?

☐ Yes ☐ No

7. Are trees placed on the north and west sides of the school to provide a wind break?

☐ Yes ☐ No

#### D. Temperature

1. How is the temperature in your building controlled?
  - ☐ Whole school is set at same temperature
  - ☐ Individual Thermostats for each room or group of rooms
2. Who sets the thermostats?
  - ☐ Individual teacher controls the thermostat
  - ☐ Thermostat is set by administration/maintenance staff
2. Does your school use programmable thermostats?
  - ☐ Yes ☐ No
3. Does your school (or school district) have standards or guidelines for thermostat temperature settings?
  - ☐ Yes ☐ No

If yes, what are the thermostat temperature settings for the following?

Heating Season

Occupied

Unoccupied

\_\_\_\_\_

Cooling Season

Occupied

Unoccupied

\_\_\_\_\_

#### E. Lighting

1. What type of lighting is used inside the school? [For a description and picture of various lighting types go to: <http://www.eere.energy.gov/erec/factsheets/eelight.pdf> or <http://www.eia.doe.gov/emeu/cbecs/profile.html>]

| Rooms        | Compact Fluorescent Light bulbs | Incandescent Light bulbs | Fluorescent Light bulbs | High Intensity Discharge (HID) Light bulbs | Other (Please specify) |
|--------------|---------------------------------|--------------------------|-------------------------|--|------------------------|
| Classrooms   |                                 |                          |                         |  |                        |
| Office       |                                 |                          |                         |  |                        |
| Restrooms    |                                 |                          |                         |  |                        |
| Cafeteria    |                                 |                          |                         |  |                        |
| Auditorium   |                                 |                          |                         |  |                        |
| Gym          |                                 |                          |                         |  |                        |
| Locker Rooms |                                 |                          |                         |  |                        |
| Hallways     |                                 |                          |                         |  |                        |

2. What kind of lighting is used outside the school?

| Area          | Compact Fluorescent Light bulbs | Incandescent Light bulbs | Fluorescent Light bulbs | High Intensity Discharge (HID) Light bulbs | Other (Please specify) |
|---------------|---------------------------------|--------------------------|-------------------------|--|------------------------|
| Stadium       |                                 |                          |                         |  |                        |
| Concessions   |                                 |                          |                         |  |                        |
| Parking Lots  |                                 |                          |                         |  |                        |
| Building Ext. |                                 |                          |                         |  |                        |

3. Are Exit and Emergency lights periodically inspected by school staff?
  - ☐ Yes ☐ No

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4. Are lights controlled by motion and/or photo sensors? If so, what type and where?  
 \* Photosensors automatically turn lights on/off depending on the amount of natural light in the room.  
 \* Motion sensors automatically turn lights on/off based on movement in the room.

| Rooms        | Sensors- [Type: Motion/Photo/Both/None*] |
|--------------|--|
| Classrooms   |  |
| Office       |  |
| Restrooms    |  |
| Cafeteria    |  |
| Auditorium   |  |
| Gym          |  |
| Locker Rooms |  |
| Hallways     |  |
| Outdoors     |  |

5. Is natural lighting or skylighting used as an alternative to artificial lighting? If so, where?

| Rooms        | Natural Lighting Only | Primarily natural lighting with artificial lighting as needed | Natural and artificial lighting both used some times | Artificial Lighting Only |
|--------------|-----------------------|---|--|--------------------------|
| Classrooms   |                       |   |  |                          |
| Office       |                       |   |  |                          |
| Restrooms    |                       |   |  |                          |
| Cafeteria    |                       |   |  |                          |
| Auditorium   |                       |   |  |                          |
| Gym          |                       |   |  |                          |
| Locker Rooms |                       |   |  |                          |
| Hallways     |                       |   |  |                          |

**F. Appliances/Machines**

1. Which energy-using appliances does your school have?

- |   |                                       |
|---|---------------------------------------|
| <input type="checkbox"/> Copiers            | <input type="checkbox"/> Dishwashers  |
| <input type="checkbox"/> Printers           | <input type="checkbox"/> Stoves       |
| <input type="checkbox"/> Computers/Monitors | <input type="checkbox"/> Ovens        |
| <input type="checkbox"/> Refrigerators      | <input type="checkbox"/> Freezers     |
| <input type="checkbox"/> Televisions        | <input type="checkbox"/> Others _____ |
| <input type="checkbox"/> Refrigerator       | _____                                 |

2. Which of these appliances/machines are turned off every night?

- |   |                                      |
|---|--------------------------------------|
| <input type="checkbox"/> Computer/Monitor | <input type="checkbox"/> Televisions |
| <input type="checkbox"/> Printer          | <input type="checkbox"/> Copiers     |
| <input type="checkbox"/> Fax Machine      | <input type="checkbox"/> Other _____ |

3. Are the coils on your school's refrigerators and coolers clean?

☐ Yes ☐ No

**G. Curriculum and Community**

1. Does your school include energy as part of the curriculum? If so, which subjects or courses and at what grade levels are they offered?
2. Has your school staff recently participated in any staff development programs?  
☐ Yes ☐ No
3. Where is the closest power plant to your school located?
4. Has your school/class ever taken a tour?  
☐ Yes ☐ No

## Classroom Energy Assessment

Complete this assessment for each classroom and use these to help the school complete the school-wide assessment.

Classroom No. \_\_\_\_\_ Teacher \_\_\_\_\_

Grade \_\_\_\_\_ Date of Audit \_\_\_\_\_

Average number of students and staff using the room each day: \_\_\_\_\_ / \_\_\_\_\_  
(students/staff)

**A. Survey- number of items in your classroom**  
**Appliances**

| Item            | Quantity (No.) |
|-----------------|----------------|
| Computers (CPU) |                |
| Monitors        |                |
| Printers        |                |
| Televisions     |                |
| VCRs/DVD        |                |
| Fans            |                |
| Projectors      |                |
| Other           |                |

**Lighting**

| Type of Bulbs       | Quantity (No.) | Average Wattage |
|---------------------|----------------|-----------------|
| Compact Fluorescent |                |                 |
| Fluorescent         |                |                 |
| Incandescent        |                |                 |

**B. Temperature**

1. If your classroom has a thermostat is it digital and programmable?  
☐ Yes ☐ No
2. If your classroom has a thermostat, what temperature is the thermostat set at? \_\_\_\_\_
3. After classroom has been in use for a couple of hours, measure and record the room temperature at waist height in following locations:  
Temperature four feet from outside wall/windows: \_\_\_\_\_  
Temperature in middle of room: \_\_\_\_\_  
Temperature four feet from inside wall: \_\_\_\_\_  
Temperature next to thermostat (if one is in your classroom): \_\_\_\_\_

**C. Energy Saving Practices**

1. Are any of the ~~survey~~ items listed in part A turned on in the morning and left on all day? If so, which ones?
2. Are computer monitors turned off after use?  
☐ Yes ☐ No
3. Are your classroom computers equipped with a sleep function or sleep mode software that allows them to "sleep" when not in use?  
☐ Yes ☐ No

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4. Are lights turned off when the room is not in use?

☐ Yes

☐ Sometimes

☐ No

5. Are classroom lights controlled by motion and/or photo sensors? If so, what type?

\* Photosensors automatically turn lights on/off depending on the amount of natural light in the room.

\*Motionsensors automatically turn lights on/off based on movement in the room.

6. Are all light bulbs on when class is in use or can lighting be adjusted to take advantage of natural light when available?

**E. Recommendations**

1. What recommendations can you suggest to conserve energy in your classroom?